Fe-bearing Crystalline Silicate Around Vega-like Star?

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We have observed the 8–13 μm spectrum ($R = 250$) of the Vega-like star candidate HD 145263 using Subaru/COMICS. The spectrum of HD 145263 shows a broad trapezoidal silicate feature with shoulders at 9.3 and 11.44 μm, indicating the presence of crystalline silicate grains. This detection implies that crystalline silicate may also be commonly present around Vega-like stars. The 11.44 μm feature is shifted to a longer wavelength compared to the usual 11.2–11.3 μm crystalline forsterite feature detected toward Herbig Ae/Be stars and T Tauri stars. Although the peak shift due to the effects of the grain size can not be ruled out, we suggest that Fe-bearing crystalline olivine can explain the observed peak wavelength fairly well. Fe-bearing silicates are commonly found in meteorites and most interplanetary dust particles, which originate from planetesimal-like asteroids. According to studies of meteorites, Fe-bearing silicate must have been formed in asteroidal planetesimals. Hence the presence of Fe-bearing crystalline silicate grains around HD 145263 could be mineralogical evidence that dust grains around Vega-like stars are indeed of planetesimal origin.